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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/085,031	03/01/2002	Yang Wang	ASH-01-003	8822

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Technology Law Department  
WORLD COM, Inc.  
1133 19th STREET NW  
WASHINGTON, DC 20036

EXAMINER
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BOAKYE, ALEXANDER O

ART UNIT	PAPER NUMBER
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2616

DATE MAILED: 06/29/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/085,031

Applicant(s)

WANG, YANG

Examiner

ALEXANDER BOAKYE

Art Unit

2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 04 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,4-24 and 26-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,4-24 and 27-32 is/are rejected.
- 7) ☒ Claim(s) 3 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 27-29 are rejected under 35 U.S.C. 102(e) as being anticipated by Shinomiya (US 2003/0037165).

Regarding claim 27, Shinomiya teaches a router system (Fig.1) comprising: a plurality of virtual routers configured to share at least one resource, of the plurality of virtual routers Page 2, column 2, Paragraph [0043] being associated with a router profile that defines a security level and resource sharing priority for the virtual router, Page 2, column 2, Paragraph [0045] ; a resource-shared information base configured to maintain at least one resource (lines 1-7 of the abstract); and a resource allocator (334, Fig.5) configured to receive a request for access to the at least one resource and grant access to the at least one resource to one of the plurality of virtual routers based on the security level and resource sharing priority associated with the one virtual , Page 5, column 2, Paragraph [0096] – Paragraph [0097].

Regarding claim 28, Shinomiya teaches that the resource-shared information base is further configured to: store a plurality of attributes for each of the plurality of virtual routers Page 6, column 2, Paragraph [0126] – [0127].

Regarding claim 29, Shinomiya teaches that the plurality of attributes include at least two of : a virtual router identifier (see Fig. 8B ), a bandwidth parameter for each interface with which a respective virtual router is associated (see Flow rate of Fig.10F).

Claims 23 and 24, are rejected under 35 U.S.C. 103(a) as being unpatentable over Shinomiya (US 2003/0037165) in view of Clark et al. (US Patent # 6,442,588).

Regarding claims 23 and 26, Shinomiya teaches a router system (Fig.1), a method for controlling allocation of a group of shared resources by a plurality of virtual routers (lines 1-7 of the abstract), the method comprising: receiving a request for allocation of one of the shared resources from at least one of the plurality of virtual routers Page 2, column 2, Paragraph [0043], the request including security information and priority information Page 2, column 2, Paragraph [0045]. Shinomiya differs from the claimed invention in that Shinomiya does not teach determining whether the request is authentic based on the security information as well as granting the request when the request is authentic. However, Clark from the same field of endeavor teaches determining whether the request is authentic based on the security information (column 6, lines 20-40); and granting the request when the request is authentic (column 6, lines 37-40). One of ordinary skill in the art would have been motivated to incorporate determining whether the request is authentic based on the security information and

Art Unit: 2616

granting the request when the request is authentic into the communication network of Shinomiya in order to be able to filter out unauthorized access by a user. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate determining whether the request is authentic based on the security information and granting the request when the request is authentic such as the one taught by Clark into the communication network of Shinomiya with the motivation being that it provides capability for the system to prevent unauthorized access by a user to an on line service provider network.

Regarding claim 24, Shinomiya teaches that the router system includes a resource-shared information base that is configured to store resource allocation information for each of the plurality of virtual routers (lines 1-7 of the abstract). What Shinomiya fails to disclose is updating the resource-shared information based on the granting. However, Clark teaches updating the resource-shared information base on the granting (column 6, lines 54-55). One of ordinary skill in the art would have been motivated to incorporate updating the resource-shared information based on the granting into the communication network in order to be able to confirm that the subscriber has been authenticated. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate updating the resource-shared information based on the granting such as the one taught by Clark into the communication network of Shinomiya with motivation being that it provides capability for the system to confirm authentication.

Claims 30 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Asayesh et al. (US Patent # 6,982,984) in view of Leung et al. (US Patent # 6,985,479).

Regarding claim 30, Asayesh teaches a router system comprising: a first router configured to operate as a backbone router (column 2, line 67-column 3, line 1; see Fig.1C). Asayesh does not disclose a second router configured to operate as a regional router. However, Leung with the same field of endeavor teaches a second router configured to operate as a regional router (column 2, lines 60-62). One of ordinary skill in the art would have been motivated to incorporate regional router into communication network in order to be able to route packet efficiently. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate regional router such as the one taught by Leung into the communication network of Asayesh with motivation being that it provides efficient packet routing.

Regarding claim 31, Asayesh teaches at least one resource that is shared by the first virtual router and the second virtual router (see Fig. 1B).

Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Asayesh (US Patent # 6,982,984) in view of Leung et al. (US Patent # 6,985,479) and further in view of Shinomiya (US 2003/0037165).

Regarding claim 32, Asayesh teaches first virtual router and the second virtual router (column 2, lines 25-27). The combination of Asayesh does not teach a resource allocator as well as security information and priority information. However, Shinomiya

Art Unit: 2616

discloses a resource allocator as well as security information and priority information Page2, column 2, Paragraph [0045]. One of ordinary skill in the art would have been motivated to incorporate a resource allocator as well as security information and priority information into communication network in order to be able to confirm packet authentication. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate resource allocator, security information and priority information such as the one taught by Shinomiya into communication network of Asayesh and Leung with motivation being that it provides unauthorized access by a user to an on line service provider network.

Claims 30 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Asayesh et al. (US Patent # 6,982,984) in view of Leung et al. (US Patent # 6,985,479).

Regarding claim 30, Asayesh teaches a router system comprising: a first router configured to operate as a backbone router (column 2, line 67-column 3, line 1; see Fig.1C). Asayesh does not disclose a second router configured to operate as a regional router. However, Leung with the same field of endeavor teaches a second router configured to operate as a regional router (column 2, lines 60-62). One of ordinary skill in the art would have been motivated to incorporate regional router into communication network in order to be able to route packet efficiently. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to

incorporate regional router such as the one taught by Leung into the communication network of Asayesh with motivation being that it provides efficient routing of packets.

Regarding claim 31, Asayesh teaches at least one resource that is shared by the first virtual router and the second virtual router (see Fig. 1B).

Claims 1, 4-9, 10-19, and 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shinomiya (US 2003/0037165) in view of Asayesh et al. (US Patent # 6,982,984) and further in view of Leung et al. (US Patent # 6,985,479).

Regarding claims 1, 15, Shinomiya teaches a router system (Fig. 1) comprising: a plurality of virtual routers (lines 7-8 of the abstract) ; at least one resource shared by the plurality of virtual routers (lines 1-7 of the abstract); a resource allocator configured to control access to the at least one resource by the plurality of virtual routers Page 5, column 2, Paragraph [0096] – Paragraph [0097]. Shinomiya differs from the claimed invention in that Shinomiya does not teach backbone router as well as regional router. However, Asayesh with the same field of endeavor discloses a virtual router 123 configured as a backbone router (column 2, line 67-column 3, line 1; see Fig. 1C). The combination of Shinomiya and Asayesh does not disclose a regional router. Leung discloses a regional router (column 2, lines 60-62). One of ordinary skill in the art would have been motivated to incorporate regional router into the combination of Shinomiya and Asayesh in order to be able to achieve effective utilization of bandwidths. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the communication network of Shinomiya and Asayesh by incorporating regional router into the communication network's of Shinomiya and



Asayesh with the motivation being that it provides capability for the system to effective utilization of bandwidths.

Regarding claim 4, Shinomiya teaches that the router system is a single high-capacity router (dynamic load sharing system using a virtual router as evidenced by Shinomiya is a high-capacity router).

Regarding claim 5, Shinomiya teaches that each of the plurality of virtual routers is associated with a router profile that is configured to store one or more virtual router attributes Page 7, column 1, Paragraph [0139].

Regarding claim 6, Shinomiya teaches that more virtual routers attributes includes at least one of an identifier Page 4, column 2, Paragraph [0082].

Regarding claim 7, Shinomiya teaches that more virtual router attributes includes resource sharing priority information for each of the at least one resource (see Fig. 3)

Regarding claim 8, Shinomiya teaches that the resource allocator controls access to the at least one resource based on at least one of the one or more virtual router attributes Psge 5, column 1, Paragraph [0096] – [0097].

Regarding claim 9, Shinomiya teaches that at least one resource includes a routing process (lines 1-7 of the abstract).

Regarding claim 10 and 19, Shinomiya teaches that the at least one resource includes one port bandwidth (see Fig. 10E).

Regarding claim 11, Shinomiya teaches that at least one resource includes a common memory (the claimed common memory is resident in the allocation processor 334 of Fig. 5).

Regarding claim 12, Shinomiya teaches a resource-shared information base configured to maintain the at least one resource (lines 1-7 of the abstract).

Regarding claim 13, Shinomiya teaches that the resource-shared information base is further configured to store a plurality of attributes for each of the plurality of virtual routers (see Fig.3).

Regarding claims 14 and 17, Shinomiya teaches that the plurality of attributes include at least two of : a virtual router identifier (see Fig. 8B), a bandwidth parameter for each interface with which a respective virtual router is associated (Flow rate information request packet of Fig. 10E reads on the claimed bandwidth parameter).

Regarding claim 16, Shinomiya teaches that the configuring includes: setting a plurality of attributes for each of the plurality of virtual routers Page 2, column 2, Paragraph [0045).

Regarding claim 18, Shinomiya teaches that at least one resource includes one a data resource Page 5, column 1, Paragraph [0097].

Regarding claim 20, Shinomiya teaches that at least one resource includes a common memory (the claimed ).

Regarding claim 21, Shinomiya teaches that the router profile includes at least one of a user identifier (see Fig. 8B).

Regarding claim 22, Shinomiya teaches that the router profile includes resource sharing priority information for each of the at least one resource (see Fig. 3).

Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Asayesh (US Patent # 6,982,984) in view of Leung et al. (US Patent # 6,985,479) and further in view of Shinomiya (US 2003/0037165).

Regarding claim 32, Asayesh teaches first virtual router and the second virtual router (column 2, lines 25-27). The combination of Asayesh does not teach a resource allocator as well as security information and priority information. However, Shinomiya discloses a resource allocator as well as security information and priority information Page2, column 2, Paragraph [0045]. One of ordinary skill in the art would have been motivated to incorporate a resource allocator as well as security information and priority information into communication network in order to be able to confirm packet authentication. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate resource allocator, security information and priority information such as the one taught by Shinomiya into communication network of Asayesh and Leung with motivation being that it provides unauthorized access by a user to an on line service provider network.

### ***Response to Arguments***

Applicant's arguments with respect to claims 1, 4-24, 26-29 have been considered but are moot in view of the new ground(s) of rejection.

### **Conclusion**

Art Unit: 2616

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander Boakye whose telephone number is (571) 273-3183. The examiner can normally be reached on M-F from 8:30am to 6:00pm.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham, can be reached on (571) 272-3179. The Fax number is (571) 273-8300. Any inquiry of general nature or relating to the status of this application or proceeding should be directed to Electronic Business Center numbers 866-217-9197 and 703-305-3028.

Alexander Boakye

Patent Examiner

AB

6/25/06

  
CHI PHAM  
SUPERVISORY PATENT EXAMINER  
6/26/06